Amendments to the Claims

1.   (currently amended) A device, comprising:

a first port to allow the device to communicate with other devices on an expansion bus;

a second port to allow the device to communicate with devices on a second bus;

a memory to store data; and

a processing element to:

receive a read request from an expansion device to a predetermined area of system memory;

transmit the read request to the system memory;

receive descriptor data from the system memory, wherein the descriptor data includes the location and size of the data to be operated upon;

parse the descriptor data from the ~~system~~ memory to determine ~~a~~ the data size;

store the descriptor data in the memory;

search the memory for the descriptor data associated with the read request; and

prefetch data of the data size from the system memory.

2.   (original) The device of claim 1, the memory further comprising a hash table in which to store packet addresses and lengths parsed from the descriptor data.

3.   (original) The device of claim 1, the second bus further comprising a system bus.

4.   (original) The device of claim 1, the second bus further comprising an expansion bus.

5.   (original) The device of claim 1, the device further comprising a network device.

6.   (original) The device of claim 1, the device further comprising an application specific integrated circuit.

7.   (original) The device of claim 1, the expansion device further comprising a network interface card.

8.   (currently amended) A method of processing bus transactions, comprising:

receiving a read request from an expansion device for a predetermined area of a

system memory;

transmitting the read request to the system memory;

receiving descriptor data from the system memory, wherein the descriptor data

includes the location and data size of the data to be operated upon;

parsing the descriptor data to identify a data size;

storing the descriptor data in a memory;

_____ searching the memory to locate the descriptor data associated with the read request;

and

prefetching data having the data size from the system memory.

9.   (original) The method of claim 8, the method further comprising storing a data size

and data address derived from the descriptor data in a hash table.

10.   (original) The method of claim 8, prefetching data further comprising:

receiving a read request from the expansion device;

identifying the address for the read as not belonging to a preconfigured area of system

memory;

accessing ~~the transmit~~ a data size from the descriptor data found in a hash table ;

issuing a read request to the system memory, wherein the read request has a request

size based upon the ~~transmit~~ data size; and

transmitting data received in response to the read request to the system memory to the

expansion device.

11.   (original) The method of claim 8, the method further comprising disconnecting from

the system memory once the data is received from the system memory.

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12.   (original) The method of claim 8, the method further comprising storing any prefetched data remaining for a read request if the expansion device disconnects.

13.   (original) The method of claim 10, accessing the ~~transmit~~ data size further comprising accessing a hash table stored within which are the descriptor data, including packet address and length.

14.   (original) The method of claim 8, the method further comprising discarding any prefetched data not transmitted to expansion devices after a programmable amount of time.

15.   (original) The method of claim 9, the method further comprising:

determining that the memory to store descriptors is full; and

discarding an oldest descriptor entry.

16.   (currently amended) A device, comprising:

a means for allowing the device to communicate with other devices on an expansion bus;

a means for allowing the device to communicate with devices on a second bus;

a means for storing data; and

a means for:

receiving a read request from an expansion device to a predetermined area of system memory;

receiving descriptor data from the system memory, wherein the descriptor data includes the location and size of the data to be operated upon;

parsing the descriptor data from the ~~system~~ memory to determine a the data size;

storing the descriptor data in the memory;

searching the memory for the descriptor data associated with the read request; and

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prefetching data of the data size from the system memory.

17.   (original) The device of claim 16, the means for storing further comprising a hash table in which to store packet addresses and lengths parsed from the descriptor data.

18.   (original) The device of claim 16, the device further comprising a network device.

19.   (original) The device of claim 16, the device further comprising an application specific integrated circuit.

20.   (original) The device of claim 16, the expansion device further comprising a network interface card.

21.   (currently amended) ~~An article of machine-readable code containing instructions that, when executed, cause the machine~~ processor having software that causes the processor to:

receive a read request from an expansion device for a predetermined area of a system memory;

transmit the read request to the system memory;

receive descriptor data from the system memory, wherein the descriptor data includes the location and size of the data to be operated upon;

parse the descriptor data from the ~~system~~ memory to determine ~~a~~ the data size;

store the descriptor data in the memory;

search the memory for the descriptor data associated with the read request; and

prefetch data of the data size from the system memory.

22.   (currently amended) The ~~article~~ processor of claim 21, the instructions further causing the machine to store the descriptor data in a local memory.

23.   (currently amended) The ~~article~~ processor of claim 21, the ~~instructions causing the machine~~ software causing the processor to prefetch data further causing the ~~machine~~ processor to:

receive a read request from the expansion device;

access the ~~transmit~~ data size from the descriptor data;

issue a read request to the system memory, wherein the read request has a request size based upon the ~~transmit~~ data size; and

transmit data received in response to the read request to the system memory to the expansion device.

24.   (currently amended) The ~~article~~ processor of claim 21, the software further causing the processor ~~instructions further causing the machine~~ to disconnect from the system memory once the data is received from the system memory.

25.   (currently amended) The ~~article~~ processor of claim 21, the ~~instructions further causing the machine~~ software further causing the processor to store any prefetched data remaining for a read request if the expansion device disconnects.

26.   (currently amended) The article of claim 23, the ~~instructions causing the machine~~ software causing the processor to access the ~~transmit~~ data size further causing the ~~machine~~ processor to access a hash table stored within which are the descriptor data, including descriptors, packet length and addresses, for each set of data.

27.   (currently amended) The ~~article~~ processor of claim 21, the ~~instructions further causing the machine~~ software further causing the processor to discard any prefetched data not transmitted to expansion devices after a programmable amount of time.

28.   (currently amended) The ~~article~~ processor of claim 21, the ~~instructions further causing the machine~~ software further causing the processor to:

determine that the memory to store descriptors is full; and

discard an oldest descriptor entry.